

CLAIMS

What is claimed is:

1. An electrophotographic printer having a photosensitive drum unit with a photosensitive drum, a plurality of development units each having a developing roller, an intermediate transfer unit having a transfer belt to which an image is transferred from the photosensitive drum, a waste toner storage container to store waste toner generated at the photosensitive drum unit and the intermediate transfer unit, and a sheet transport unit which holds a transferred image, the electrophotographic printer comprising:

first through third doors provided to mount or dismount the plurality of development units, the photosensitive drum unit and intermediate transfer unit, and the waste toner storage container, respectively; and

a fourth door provided to access the sheet transport unit.

2. The electrophotographic printer of claim 1, wherein the photosensitive drum unit and the intermediate transfer unit are mounted or dismounted in a vertical direction, the plurality of development units are mounted or dismounted in a horizontal direction, the waste toner storage container is mounted or dismounted in a lengthwise direction of the photosensitive drum, and the sheet transport unit is positioned opposite to the plurality of development units with respect to the photosensitive drum unit so that the first through fourth doors open left, top, front and right sides of a housing of the electrophotographic printer.

3. The electrophotographic printer of claim 2, wherein the first door includes a pressurizing member to elastically push the plurality of development units toward the photosensitive drum.

4. The electrophotographic printer of claim 2, further comprising:
an opening switch to open the second door; and
a door locking unit permitting the opening switch to operate only when the first door is opened, so that the second door is opened.

5. The electrophotographic printer of claim 4, wherein the door locking unit permits the first door to be closed only when the second door is closed.

6. The electrophotographic printer of claim 4, wherein the door locking unit

comprises:

a first member having an interference unit and installed within the printer to slide in association with the opening operation of the first door;

a second member having one end connected to the first door and the other end connected to the first member to make the first member slide as the first door is opened; and

a third member installed to be movable as the opening switch operates, and to be selectively interfered with by the interference unit according to opening or closing of the first door to selectively permit the opening switch to operate.

7. The electrophotographic printer of claim 6, wherein the third member and the interference unit permit the first door to be closed only when the second door is closed such that they interfere with each other in a state in which the second door is opened so as to prevent the first member from sliding.

8. The electrophotographic printer of claim 2, further comprising a retracting unit to retract the development unit being positioned above the center of the photosensitive drum in association with the opening operation of the first door to a position at which it does not interfere with the photosensitive drum when the photosensitive drum unit is being mounted or dismounted in a vertical direction.

9. The electrophotographic printer of claim 8, wherein the first door is opened to either a first opening position or a second opening position, and when the first door is opened from the first opening position to the second opening position, the retracting unit retracts the development unit from being positioned above the center of the photosensitive drum to a position at which it does not interfere with the photosensitive drum when the photosensitive drum unit is mounted or dismounted in a vertical direction.

10. The electrophotographic printer of claim 8, wherein the retracting unit comprises:
a first connection unit provided on each of the development units;
a first member sliding in a direction in which the development unit retracts in association with the opening operation of the first door, and having a second connection unit coupled to the first connection unit, and a third connection unit; and
a second member having a fourth connection unit coupled to the third connection unit, and rotatably installed on the first door so as to pull the first member in the retracting direction

as the first door is opened.

11. The electrophotographic printer of claim 10, wherein the first door includes a first opening position and a second opening position, and the third connection unit is shaped of a boss inserted in the first member, and the fourth connection unit is shaped of a slot into which the boss is inserted so that when the first door is opened from the first opening position to the second opening position, an end of the slot is brought into contact with the boss, pulling the first member in the retracting direction.

12. The electrophotographic printer of claim 2, further comprising a pair of ejection rollers to eject the sheet while rotating in an engaged manner, one of the ejection rollers being installed in the second door and separated from the other when the second door is opened.

13. The electrophotographic printer of claim 2, wherein a multi-purpose feeder (MPF) to supply non-regular size sheets is rotatably installed in the sheet transport unit.

14. The electrophotographic printer of claim 2, further comprising:
a main frame on which the photosensitive drum unit, the plurality of development units, the intermediate transfer unit, the waste toner storage container and the sheet transport unit are mounted, the sheet transport unit being rotatably installed in the main frame and coupled to the fourth door.

15. The electrophotographic printer of claim 14, further comprising a transfer roller selectively contacting or being spaced apart from the transfer belt and transferring the toner image to the sheet transported between the transfer belt and the same, wherein the transfer roller is installed on the sheet transport unit.

16. An electrophotographic printer comprising:
first through third doors to access disposables; and
a fourth door to access a sheet transport unit.

17. The electrophotographic printer of claim 16, wherein the disposables include a photosensitive drum unit comprising a photosensitive drum, a plurality of development units each having a developing roller, an intermediate transfer unit having a transfer belt to which an

image is transferred from the photosensitive drum, and a waste toner storage container to store waste toner generated at the photosensitive drum unit and/or the intermediate transfer unit.

18. The electrophotographic printer of claim 17, wherein the photosensitive drum unit and the intermediate transfer unit are mounted or dismounted in a vertical direction, the plurality of development units are mounted or dismounted in a horizontal direction of the photosensitive drum, the waste toner storage container is mounted or dismounted in a lengthwise direction of the photosensitive drum, and the sheet transport unit is positioned opposite to the plurality of development units in view of the photosensitive drum unit so that the first through fourth doors are provided to open left, top, front and right sides of a housing of the electrophotographic printer.

19. The electrophotographic printer of claim 18, wherein the second door is opened only when the first door is opened.

20. The electrophotographic printer of claim 19, wherein the first door is opened only when the second door is closed.

21. The electrophotographic printer of claim 18, wherein the development unit is positioned above the center of the photosensitive drum retreats at least to a position at which the development unit does not interfere with the photosensitive drum when the photosensitive drum unit is being mounted or dismounted in association with the opening of the first door.

22. An electrophotographic printer comprising first through fourth doors provided to open left, top, front and right sides of a housing of the electrophotographic printer.

23. The electrophotographic printer of claim 22, further comprising a photosensitive drum unit having a photosensitive drum, a plurality of development units each having a developing roller, an intermediate transfer unit having a transfer belt to which an image is transferred from the photosensitive drum, a waste toner storage container to store waste toner generated at the photosensitive drum unit and the intermediate transfer unit, and a sheet transport unit which finally holds the image, wherein the first through fourth doors are opened to access the plurality of development units, the photosensitive drum unit and intermediate transfer unit, the waste toner storage container, and the sheet transport unit, respectively.

24. The electrophotographic printer of claim 23, wherein the photosensitive drum unit and the intermediate transfer unit are mounted or dismounted in a vertical direction, the plurality of development units are mounted or dismounted in a horizontal direction, the waste toner storage container is mounted or dismounted in a lengthwise direction of the photosensitive drum, and the sheet transport unit is positioned opposite to the plurality of development units in view of the photosensitive drum unit.

25. The electrophotographic printer of claim 24, wherein the second door is opened only when the first door is opened.

26. The electrophotographic printer of claim 25, wherein the first door is opened only when the second door is closed.

27. The electrophotographic printer of claim 24, wherein the development unit is positioned above the center of the photosensitive drum and retracts at least to a position at which the development unit does not interfere with the photosensitive drum when the photosensitive drum unit is being mounted or dismounted in association with the opening of the first door.